Admit Note Below

MASSACHUSETTS GENERAL HOSPITAL

[redacted] *Admission Note*

[redacted]

ID/CC: "Severe fatigue, malaise and increasing scapula pain"

HPI:
[redacted] is a **48 yo gentleman** with a PMH only notable of bipolar disorder, depression and known, nonmalignant, **likely infectious lytic lesions** of the **left scapula** (s/p biopsy on 3/09: necrotizing granulomas, unclear etiology) and **femur** who is referred by the infectious disease service for further workup of **increasing fatigue, malaise** and worsening scapula pain.

The patient left **scapula and femur lesion detected in 1/09** which was originally thought to be cancerous but after evaluation was found to be osteomyelitis of unclear etiology (biopsy: necrotizing granulomas). The patient is in the middle of the workup of those lesions **by the infectious disease service** as an outpatient [redacted] with **signficiant prior w/u negative so far** and some results pending.

Over the last 3 days prior to admission, he felt like having a severe episode of the flu with **malaise and generalized weakness**. He reports **sweats, myalgias and anxiety** over the past 3 days. He said he got a flu shot in dec 2008. He has not left the bed, and had poor appetite for the last couple of days, but no fever, chills, nausea, vomiting; no sick contact. No weight loss/LAD/ SOB/cough.

The patient called Dr. [redacted] who recommended to admit the patient for further workup of his decline, and for further w/u of the osteomyelitis of unclear etiology.

HPI in detail since January 09:
The patient was in USOH until **12/08** when he started to have intermittent **L shoulder pain.** He subsequently developed productive

cough, so pt went to local ER on 1/3/09 at an OSH. He was successfully **treated for pneumonia** with **unknown antibiotics**. However, plain films showed possible lucency in L scapula, and further imaging was recommended.

Bone scan on 1/8/09 indicated 2 suspicious lesions with increased activity, involving the **L scapular spine** and medial cortex of the **R femoral shaft**. A CT chest/abdo/pelvis on 1/9/09 showed cortical erosion along the ventral L scapular spine. In the lungs, numerous **mediastinal and hilar lymph nodes** were mildly enlarged ill-defined lung nodules were visualized.

PET/CT performed on 1/23/09 demonstrated a 1.3mm well-circumscribed lytic lesion in the L scapular spine with marked FDG uptake suspicious for neoplasm. **MRI of L shoulder and R femur** showed a 23x14mm L scapular spine lesion suspicious of malignancy. Furthermore, a lytic enhancing lesion in cortex of R distal femur with some cortical thickening was seen. The radiologist suggested a Brodie's abscess versus osteoid osteoma.

CT-guided FNA on 2/11/09 of L scapula lesion and CT-guided FNA on 3/5/09 of the femur were both non-diagnostic.

An excisional biopsy of **L scapula** lesion was done on 3/11/09. The report indicates **necrotizing granulomas**. He was started on cefazolin and ID was consulted regarding the need for airborne precautions, which were not recommended given his absence of pulmonary symptoms and low suspicion of TB. Labs notable for mild leukocytosis (15K post-op), and negative myeloma w/u. All **cultures** of the biopsy were **negative for any organisms** so far.

HIV negative, tested about **1 yr ago** after his divorce. Denies high risk sexual activity. **PPD negative about 1 yr ago**. Has traveled briefly to endemic TB areas (Russia, Paraguay) many years ago but no known direct contacts. Has never lived outside the US. No pets, no unusual occupational exposures, no significant travel to Midwest/Southwest.

ED COURSE:
VITALS: T: 98.8; HR: 92; BP: 135/93; RR: 18; O2: 99, RA;
Medications: vancomycin 1 gm q12; doxycycline 200 q12;
EKG: NSR, normal EKG, no ischemic changes
Lab: WBC 15 with 55% neutrophils; otherwise normal labs
Rads: Chest CT: nodules: c/w eosinophilic granuloma, tbc, sarcoid, emboli.

ROS
All systems reviewed and negative except as per HPI.

PAST MEDICAL HISTORY
- **Osteomyelitis of unknown etiology of scapula and femur as above under HPI**
- Depression and bipolar disorder
- borderline hypertension
- no history of neoplasm.

- Appendectomy in 1985

FAMILY HISTORY
Mother- Paget's disease, still living
Father- Paget's disease, died with colon ca with lung mets at age 68
Older bro- DM, no other sibs

SOCIAL HISTORY
- Occupation: Lawyer. Lives with and cares for his mother. Divorced.
- Habits: Smoker 2packs/day for past 3 yrs, intermittently cigars/cigarettes previously. Denies alcohol or recreational drug use.

- Travel: Ascencion Paraguay 1993, Moscow Russia 1999 [redacted]
- Pets: None. No rodent/farm/animal exposure recently.

ALLERGIES
NKDA

MEDICATIONS ON ADMISSION
1. Acetaminophen (Tylenol) 325-650 MG PO Q4H prn Pain, fever
2. Bisacodyl Rectal (Bisacodyl (Dulcolax)) 10 MG PR QD prn Constipation
3. Docusate Sodium (Colace) 100 MG PO BID
4. Hydromorphone Hcl (Dilaudid) 2-4 MG PO Q4H prn Pain
5. Lamotrigine (Lamictal) 200 MG PO QD
6. Lithium Carbonate 150 MG PO BID
7. Lorazepam (Ativan) 1 MG PO Q6H prn Anxiety
8. Pantoprazole 40 MG PO QD
9. Quetiapine (Seroquel) 300 MG PO QHS

PHYSICAL EXAM
VITALS: T: 97; HR: 92; BP: 159/93; RR: 18; O2:99, RA;
GENERAL: anxious appearing, otherwise NAD
HEENT: normocephalic, atraumatic; PERRL, EOMI, oral moist, anicteric.
NECK: supple, no palpable nodes, normal thyroid without masses; JVP flat; carotid pulses 2+ bilaterally; the trachea is midline
CHEST: clear to auscultation bilaterally, with no crackles or wheezes appreciated
CARDIAC: RRR, nl S1/S2, no murmurs, rubs or gallops
ABDOMEN: soft, non-distended; non-tender without rebound and guarding; normal bowel sounds; no masses or hepatosplenomegaly
EXTREMITIES: **Mild erythema over left spine of scapula with only minimal tenderness**; Pulses +2 symmetrical, palp PT/DP, no leg edema, no clubbing or cyanosis, warm and well-perfused;
SKIN: nl texture, no lesions or rashes.
NEURO: Grossly intact, A&O X3, CN 2-12 grossly intact, strength 5/5 throughout, sensation intact to light touch

LABORATORY DATA

Test Name	MGH 03/21/09 17:36	MGH 03/12/09 07:40	MGH 03/03/09 19:26

NA	142	142	145	
K	4.1	3.9	4.1	
CL	103	103	103	
CO2	24.2	27.1	29.3	
BUN	14	8	13	
CRE	0.84	1.03	1.12	
EGFR	>60(T)	>60(T)	>60(T)	
GLU	74	94	76	
ANION	15	12	13	

Test Name	MGH 03/21/09 17:36	MGH 03/12/09 18:38	MGH 03/12/09 07:40	MGH 03/03/09 19:26
CA	9.9		9.5	10.1
PHOS	4.8(H)			
MG	2.0			
TBILI	0.3			0.3
DBILI	0.0			
TP	7.3			See Detail
ALB	4.4			4.8
GLOB	2.9			2.9
LDH				153
1,25VITD		35(T)		

Test Name	MGH 03/21/09 17:36	MGH 03/03/09 19:26
ALT/SGPT	22	12
AST/SGOT	15	14
ALKP	82	83
TBILI	0.3	0.3
DBILI	0.0	

Test Name	MGH 03/03/09 19:26
LDH	153

Test Name	MGH 03/12/09 13:32
ACE	**18(T)**

Test Name	MGH 03/21/09 17:36	MGH 03/12/09 07:40	MGH 03/03/09 19:26	MGH 07/14/00 13:32
WBC	**15.0(H)**	15.8(H)	13.0(H)	8.3
RBC	5.04	5.10	5.24	4.28(L)
HGB	14.8	15.0	15.4	12.6(L)
HCT	41.1	42.5	44.2	36.1(L)
MCV	81	83	84	84
MCH	29.3	29.5	29.5	29.4
MCHC	36.0	35.3	35.0	34.9
PLT	301	249	215	198
RDW	13.4	13.6	13.5	14.0
DIFFR				Received
METHOD	see detail	Auto	Auto	
%NEUT	**55**	61	59	48
%LYMPH	39	34	36	28
%MONO	6	5	5	7
%EOS	0	0	0	4
%BASO	0	0	0	1
%BAND-M				7

%ATYPS				5(H)
ANEUT	8.22(H)	9.57(H)	7.76(H)	4.0
ALYMP	5.83(H)	5.39(H)	4.62	2.3
AMONS	0.93	0.79	0.61	0.6(H)
AEOSN	0.02(L)	0.00(L)	0.02(L)	0.3
ABASOP	0.03	0.02	0.02	0.1
ABAND-M				0.6
RCM-M				Abnormal
ANISO	None	None	None	
POLYCH				1+
HYPO	None	None	None	
MACRO	None	None	None	
MICRO	None	None	None	
SPHERO				1+

Test Name	MGH 03/12/09 07:40	MGH 03/03/09 19:26
ESR	8	13(H)

Test Name	MGH 03/21/09 17:46	MGH 03/11/09 23:23	MGH 07/14/00 14:20
UA-COLOR	Yellow	Yellow	AMBER
UA-APP	Clear	Clear	CLEAR
UA-GLUC	Negative	Negative	Negative
UA-BILI	Negative	Negative	Negative
UA-KET	Negative	1+	Negative
UA-SPGR	>1.030(T)	1.020	1.020
UA-BLD	Negative	Negative	Negative
UA-PH	5.0	5.5	6.0
UA-PROT	Negative	Trace	TRACE
UA-UROBI	Negative	Negative	Negative
UA-NIT	Negative	Negative	Negative
UA-WBC	Negative	Negative	Negative

Test Name	MGH 03/03/09 19:26
IGG	**909**
IGA	**178**
IGM	**49(L)**
SPEP negative	**see detail:**
U-BJP negative	**see detail:**

Test Name	MGH 03/12/09 07:40	MGH 03/03/09 19:26
CRP-MG/L	19.0(T)	11.7(HT)

Test Name	MGH 03/19/09 12:28	MGH 03/12/09 20:42	MGH 03/12/09 19:44	BWH 11/17/03 21:02	BWH 11/17/03 17:58
COXB1-IGG		**<1:16(T)**			
COXB2-IGG		**<1:16(T)**			
COXB2-IGM (Coxiella burnetti)		**<1:16(T)**			
TA-IGG (Treponema p.)				**Negative**	
HCAPUA (Histoplasma)			**see detail**		

HTLV1-AB		Negative(T
CFTRFD		see detail
BPSEUD	PEND	
(Meloidosis)		
COX1-IGM	<1:16(T)	
BHENS-GTIT	<1:128(T)	
BHENS-MTIT	<1:20(T)	
(B. Henselae)		
BQUINGT	<1:128(T)	
BQUINMT	<1:20(T)	
(B.quintana)		
HIST-COM	see detail	
QFEVERIMP	NEGATIVE	

MICROBIOLOGY/PATHOLOGY

- Left scapula excisional biopsy tissue culture Collected 11-Mar-09 16:52

Gram Stain - Final Reported: 18-Mar-09 15:40
Few MONONUCLEAR CELLS, Rare POLYS, NO ORGANISMS SEEN

Wound Culture - Final Reported: 18-Mar-09 15:40
NO GROWTH

Anaerobic Culture - Final Reported: 18-Mar-09 15:40
NO GROWTH

Acid Fast Smear - Preliminary Reported: 12-Mar-09 12:40
NO ACID FAST BACILLI OBSERVED

Mycobacterial Culture - Preliminary Reported: 20-Mar-09 07:19
NEGATIVE FOR MYCOBACTERIA AFTER 9 DAYS

Fungal Wet Prep - Final Reported: 12-Mar-09 10:30
NO FUNGI SEEN

Fungal Culture - Preliminary Reported: 20-Mar-09 08:52
NO FUNGUS OR YEAST ISOLATED AFTER 9 DAYS

- Surgical Pathology 3/12/2009

Indirect immunofluorescence testing for anti-neutrophil cytoplasm antibodies (**ANCA) is negative**. ELISAs are also negative for antibodies to proteinase 3 and myeloperoxidase.
INTERPRETATION: The findings provide no support for the diagnosis of active Wegener's granulomatosis, microscopic polyarteritis nodosa, related forms of vasculitis or idiopathic necrotizing and crescentic glomerulonephritis.

- Surgical Pathology 3/11/2009

FINAL: **ACUTE OSTEOMYELITIS WITH NECROSIS AND GRANULOMAS.**

NOTE: Overall, although infectious organisms are not seen on special stains, these histologic findings are highly suspicious for an infectious etiology.

EKG

- NSR, normal EKG, no ischemic changes

RADIOLOGY

- see detailed HPI above for previous radiology report at MGH and at OSH

- Chest CT 3/21/09:

Scattered nodules throughout the lungs with cystic lucencies, lytic lesion in the left scapula, and scattered lymphadenopathy. Constellation of findings are non-specific, but could be seen in eosinophilic granuloma, or other granulomatous disease such as sarcoid. Tuberculosis cannot be excluded in the correct clinical setting, however, is less likely. Infectious etiology such as septic emboli would also be possible.

CARDIOLOGY
- N/A

ASSESSMENT & PLAN
48 yo gentleman with a PMH only notable of bipolar disorder, depression and known, nonmalignant, **likely infectious lytic lesions** of the **left scapula** (s/p biopsy on 3/09: necrotizing granulomas, unclear etiology) and **femur** who is referred by the infectious disease service for further workup of **increasing fatigue, malaise** and worsening scapula pain.

Issue # Scapula/Femur lesions/Fatigue of unknown etiology; working diagnosis currently bacterial osteomyelitis (Strep or Staph) vs. Q-fever
- s/p biopsy: necrotizing granulomas; all cultures from biopsy negative to date (TB, fungal, bacterial)
- ANCA negative; UPEP, SPEP negative; PPD negative (placed on 3/19)
- subcentimeter mediastinal/hilar LAD, cystic lung lesions unchanged from previous CT at OSH in Jan 09
- partially treated (abx for PNA in jan 09) bacterial osteomyelitis from either Strep or Staph is a likely diagnosis
- Q fever is possible: associated with chronic granulomatous osteomyelitis and perhaps is one of the more likely on the infectious disease list in the setting of the absence of systemic symptoms. The organism (Coxiella burnetiiI) would not have grown on routine cultures and normal stains would not pick this organism up.
- f/u serology for Q fever.
- f/u viral respiratory panel, AFB smears;
- f/u blood cultures(Bacterial/Fungal/Mycobacterial)
- f/u RPR
- f/u HIV ELISA
- f/u serum cryptococcal antigen
- cont vancomycin 1 gm q12 (strep, staph osteomyelitis), doxycycline 200 q12h (Q-fever)
- f/u ID recs on Monday (they are following)

Issue # Scapula pain; 2/2 fracture after excisional bx of a lytic lesion (osteomyelitis) of unknown etiology
- cont shoulder sling
- cont dilaudid i.v. 0.5-1.0 q2h, lidoderm patch

Issue # Bipolar/Depression/Anxiety
- cont Lamotrigine (Lamictal), Lithium Carbonate, Ativan PRN

Issue # F/E/N:
- regular diet; cont nicotin patch, lozenges
- cont D51/2 NS

Issue # Prophylaxis:
- GI: colace
- DVT: Fragmin

[redacted]

Reviewed

Patient [redacted]

Status: Auto Finalized 04/12/2009 02:00